

Applicant : THOMAS  
Appl. No : 09/695,059  
Filed : 10/25/2000  
Title : METHOD FOR DETECTING ABERRANT BEHAVIOR OF  
FINANCIAL INSTRUMENT  
Grp./A.U. : 2164  
Docket No. : 12026-2

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DEC 11 2002

**GROUP 3600**

Honorable Commissioner of Patents  
Washington, D.C  
20231

December 9, 2002

**VOLUNTARY AMENDMENT**

Sir:

Please amend the above-identified application as follows:

**In the claims:**

Please amend claim 1 as follows:

A<sup>1</sup> 1. A method for identifying aberrant behavior of a financial instrument comprising the steps of:

(a) recording the closing price, volume and number of transactions conducted for the financial instrument in a selected trading session;

(b) identifying a plurality of time periods, each of said time periods terminating with the trading session of the financial instrument immediately preceding the selected trading session;

(c) calculating the average and standard deviation of the price, volume and number of transactions during each of the time periods;

please send your reply to:

Scotia Plaza, 40 King Street West, 40th Floor  
Toronto, Ontario, Canada M5H 3Y2  
416 364 7311 fax: 416 361 1398

Meadowvale Corporate Centre, 2000 Argentia Road  
Plaza 4, Suite 430, Mississauga, Ontario, Canada L5N 1W1  
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(d) determining whether the closing price, volume and number of transactions differs from the average of the corresponding component during each of the time periods by a selected number of standard deviations and for each case in which such a difference is sufficiently large, recording an aberrant flag;

(e) counting the number of aberrant flags; and

(f) reporting the number of aberrant flags.

Please add new claims 2-21, as follows:

A 2. A method as claimed in claim 1, further comprising:

(g) selecting a threshold value corresponding to an expected total number of aberrant flags;

(h) calculating the difference between the total number of aberrant flags and the threshold value; and

(i) recording an overall financial instrument aberrant flag if the magnitude of the difference in step (h) is sufficiently large.

3. A method as claimed in claim 2, wherein the threshold value corresponds at least in part to the total number of possible aberrant flags that could be recorded in step (d).

4. A method as claimed in claim 1, wherein the financial instrument is sold on at least one market, the at least one market has market indexes that are analogous to the closing price, the volume and the number of transactions, and wherein the selected number of standard deviations depends at least in part on standard deviations of the market indexes for the time periods.

5. A method as claimed in claim 1, wherein in step (d), for each time period, an aberrant flag is recorded if both the difference between the number of transactions for the selected trading session and the average number of transactions is sufficiently large

and the number of transactions for the selected trading session is greater than the average numbers of transactions.

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6. A method as claimed in claim 1, wherein one of the parameters is the volume, and wherein in step (d), for each time period, an aberrant flag is recorded if both the differences between the volume for the selected trading session and the average volume is sufficiently large, and the volume for the selected trading session is greater than the average volume.

7. A method as claimed in claim 1, further comprising:

(j) calculating an average number of aberrant flags for the financial instrument over a selected number of trading sessions immediately prior to the selected trading session; and

(k) comparing the number of aberrant flags in the selected trading session with the average number of aberrant flags; and

(l) identifying the existence of an overall financial instrument aberration if the comparison in step (k) results in a difference above a threshold value.

8. A method for identifying aberrant behavior of a financial instrument comprising the steps of:

(a) recording the values of a plurality of parameters, said parameters including the number of transactions and at least one parameter selected from the group consisting of closing price and volume, for the financial instrument in a selected trading session;

(b) identifying a plurality of time periods, each of said time periods terminating with the trading session of the financial instrument immediately preceding the selected trading session;

(c) calculating average values of the parameters for the time periods;

(d) calculating the differences between the values of the parameters during the selected trading session and the average values of the parameters; and

(e) identifying the differences as being aberrant depending on the magnitude of the differences.

9. A method as claimed in claim 8, wherein step (e) includes:

(f) selecting a set of expected variations for the values of the parameters; and

(g) determining whether the differences exceed the expected variations.

10. A method as claimed in claim 9, wherein the expected variations are selected depending on the averages and standard deviations of the parameters over the time periods.

11. A method as claimed in claim 8, wherein at least one time period is at most 10 days long and at least one other time period is at least one year long.

12. A method as claimed in claim 8, further comprising reporting the presence of any differences that are aberrant.

13. A method as claimed in claim 8, further comprising counting a total number of differences that are aberrant, and reporting the total number of differences that are aberrant.

14. A method as claimed in claim 8, further comprising:

(h) counting a total number of differences that are aberrant for the selected trading session;

(i) selecting a threshold value corresponding to an expected total number of differences that are aberrant for the selected trading session;

(j) calculating the difference between the total number of differences that are aberrant for the selected trading session and the threshold value; and

(k) identifying the existence of an overall financial instrument aberration if the comparison in step (j) results in a difference above the threshold value

15. A method as claimed in claim 14, wherein the threshold value corresponds at least in part to the total number of differences calculated in step (d).

16. A method as claimed in claim 9, wherein the financial instrument is sold on at least one market, the at least one market has market indexes that are analogous to the parameters, and wherein the expected variations correspond at least in part to standard deviations of the market indexes for the time periods.

17. A method as claimed in claim 8, wherein in step (e), the differences between the number of transactions for the selected trading session and the average values for the number of transactions are identified as being aberrant depending on the magnitude of the differences, and depending on whether or not the number of transactions for the selected trading session is greater than the average number of transactions.

18. A method as claimed in claim 8, wherein one of the parameters is the volume, and wherein in step (e), the differences between the volume for the selected trading session and the average values for the volume are identified as being aberrant depending on the magnitude of the differences, and depending on whether or not the volume for the selected trading session is greater than the average volume.

19. A method as claimed in claim 8, further comprising:

(l) counting a total number of differences that are aberrant for the selected trading session;

(m) calculating an average total number of differences that are aberrant for the financial instrument over a selected number of trading sessions immediately prior to the selected trading session; and

(n) calculating the difference between the total number of differences that are aberrant and the average total number of differences that are aberrant; and

(o) identifying if the financial instrument is aberrant exists depending on the magnitude of the difference calculated in step (n).

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20. A method as claimed in claim 8, wherein the parameters includes the number of transactions, the closing price and the volume, for the financial instrument in a selected trading session.

21. A method for identifying aberrant behavior of a financial instrument comprising the steps of:

(a) recording the values of a plurality of parameters, the parameters including the number of transactions, the closing price and the volume, for the financial instrument in a selected trading session;

(b) identifying a plurality of time periods, each of said time periods terminating with the trading session of the financial instrument immediately preceding the selected trading session;

(c) calculating average values of the parameters for the time periods;

(d) calculating the differences between the values of the parameters during the selected trading session and the average values of the parameters;

(e) selecting a set of expected variations for the values of the parameters during the selected trading session, wherein the expected variations are selected depending on the averages and standard deviations of the parameters over the time periods;

(f) determining whether the differences exceed the expected variations;

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(g) identifying any differences that exceed the expected variations as being aberrant;

(h) counting the total number of differences that are aberrant;

(i) selecting a threshold value corresponding to an expected total number of differences that are aberrant for the selected trading session;

(j) calculating the difference between the total number of differences that are aberrant for the selected trading session and the threshold value; and

(k) reporting whether an overall financial instrument aberration exists depending on the magnitude of the difference in step (j).]

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